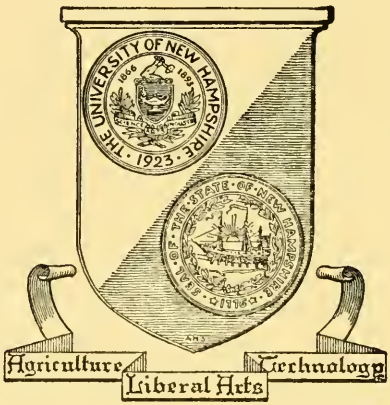
SHOUT
SHARE
IT

Library of



The University
of
New Hampshire

Printed by
GRANITE STATE PRESS
Manchester, N. H.

Bulletin 215 December, 1924

NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION
DEPARTMENT OF AGRONOMY

Result of Seed Test for 1924

MADE FOR THE

STATE DEPARTMENT OF AGRICULTURE

By M. GALE EASTMAN

THE UNIVERSITY OF NEW HAMPSHIRE
DURHAM, N. H.

PRINTED BY THE GRANITE STATE PRESS
MANCHESTER, N. H.
1925

RESULTS OF SEED TESTS

For the Year Ending June 30, 1924

There have been handled in the laboratory this year 510 samples of seed. This number includes those sent in by individuals and merchants, as well as the official samples collected by an agent of the State Department of Agriculture. This bulletin records the findings in relation to "official" samples only.

For various reasons, individuals sending seeds to the laboratory for testing may not care to have the results published. Usually there would be no advantage in such a procedure. Merchants often send samples which they expect to discard rather than sell, unless the tests prove better than they anticipate. However, the State law does not prohibit the sale of any seed so long as it is labeled correctly in regard to germination and purity. For this reason, it behooves every buyer of seed to notice carefully the guaranty statement attached to the container from which his purchase is taken.

Purity does not change materially in a sample from year to year, although it may be affected some by variations in moisture content, but the germinability of all seeds deteriorates with the passage of time. Some seeds, in fact, are likely to be of little value if kept more than one year, although most farm seeds may be used to advantage for several years. Seed does not have to germinate any given percentage to be useful; but the higher its germination, the more plants are likely to grow and, consequently, the more valuable the seed to the sower. Therefore, the State law requires that seed sold for planting be accompanied by a statement as to its content of good seed. This is the information which the careful purchaser needs.

If a farmer desires to sow ten pounds of red clover seed per acre on the assumption that 98 per cent is pure and that 99 per cent of it will give healthy sprouts, he

should not be satisfied with an equal amount of seed materially lower in purity or germination. (Small seeds like the grasses and clovers cannot be cleaned absolutely pure by commercial mechanical means although they may run very nearly perfect in the best grades of many varieties. Larger seeds like corn and beans may easily be practically 100 per cent pure.) If seed were only 80 per cent pure and gave a response of only 70 per cent in germination, it might still be useful provided the buyer was satisfied that it contained no harmful materials like injurious weeds and that the purchase price was comparable to the actual proportion of good seed present. The farmer's ten pounds of seed which was 98 per cent pure actually had 9.8 pounds of the kind of seed he wanted. If 99 per cent of that would germinate, he could expect 9.7 pounds of his purchase to start to grow under proper conditions. In the second case, only 8 pounds out of the 10 will be red clover and only seventy seeds in a hundred will properly germinate. Therefore, with this seed one could expect a response from only 5.6 pounds out of the original 10. Disregarding probable danger from weed seeds and the possibility of less vigorous plants from the clover seed that actually responds with healthy appearing sprouts, this material could be worth only a little more than half as much as the better sample. Apparent percentages are sometimes misleading. The agricultural value of a sample of seed for planting is only as good as the product of its purity and germination percentages.

On the tag accompanying the seed should be found the date when the last germination test was made. This is required by law. Merchants should keep in mind that seeds deteriorate from year to year and that guarantees made by the wholesaler may not conform to the actual conditions of the seed if more than a year old. Some of the most flagrant violations of the seed law have been traced to just such a situation.

The accompanying table compiled from data published by the United States Department of Agriculture and by the Association of Official Seed Analysts of North America will serve to indicate the longevity as well as the purity and germination expected in good seed.

STANDARDS OF PURITY, GERMINATION, AND LONGEVITY.

KIND OF SEED	Purity	Germination	Longevity, Average Length of Vitality
	Per cent	Per cent	Years
Alfalfa	98	85-90	6-8
Barley	99	90-95	3
Bluegrass, Canada	90	45-50	1-2
Bluegrass, Kentucky	90	45-50	1-2
Clover, alsike	95	75-80	2
Clover, crimson	98	85-90	2
Clover, red	98	85-90	5-6
Clover, sweet	99	85-90	5
Clover, white	95	75-80	2
Corn, field	99	90-95	4
Meadow fescue	95	85-90	2
Millet, common	98	85-90	4
Millet, Japanese	98	85-90	4
Oats	99	90-95	3
Orchard grass	97	90-95	2-3
Rape, Dwarf Essex	99	90-95	6
Redtop	95	90-95	6
Rye	99	90-95	2
Timothy	98	85-90	5-6
Vetch, hairy	98	70-75	3
Wheat	99	90-95	2-7

The selling of seed that has been mixed by a careless or ignorant clerk who threw a half-filled scoop back in the

wrong pail or dumped a bag in the wrong bin may be a rather serious violation of the law. There is not much room to suppose that a dealer would purposely mix red clover with Hungarian millet. The clover costs much more either by the pound or by the quart. From the farmer's standpoint, however, the clover would not be a very desirable adulterant to have in the millet. The clover would not be very conspicuous, and, even if noticed with the Hungarian, could hardly be separated economically by hand; it certainly would not contribute largely to the farmer's success if sown half and half under the impression that a full seeding of millet was being made under proper conditions for a hot season crop. Nature is very impersonal and gives the farmer credit only in proportion to his ability to do the right thing at the right time; the State law is also impersonal to the extent of allowing no plea of carelessness or ignorance to cloud the fact that the sale of a mixture of red clover and Hungarian millet is a violation of both the letter and the spirit of the law. This illustration is given simply to call attention to the probability that some few cases of adulteration are doubtless due to carelessness on the part of the retailer.

Any crop seed that becomes mixed with another in sufficient quantities to constitute more than 5 per cent of the whole by weight not only reduces the percentage of purity by that much but automatically causes the seed to become a "mixture." The State law requires that such a mixture shall bear a statement giving the name and percentage of each and every kind of agricultural seed contained therein in excess of 5 per cent. This applies to lawn seed mixtures, hay mixtures, pasture mixtures, etc. It is a very important regulation which is often violated.

Some of our most common and necessary field seeds are expensive and at the same time easily adulterated with worthless or inferior seeds of a similar size, form, and color. Nothing about the appearance of seed will neces-

sarily determine its ability to grow. For example, very old clover seeds may lose a bit of their luster and sometimes fade if dark colored, but they will be the same size and shape and manifest no striking difference from absolutely new seed. Sometimes new seed looks old because it has become a bit dusty. Recognizing the fact that physical appearance is no reliable index to the quality of seeds, laws have been passed in our state to protect the buyer against unscrupulous seed venders who would flood the market with very old, adulterated, or otherwise worthless seed.

But some of this seed is still sold. One of the more common ways apparently is by mail. When a farmer sees an attractive advertisement in the paper, offering cheap seed by a company that he knows nothing about because it is so far away, there is need for the exercise of an overabundance of good judgment. In the first place, there is no protection afforded by the State law in such a case because the State has no jurisdiction over agreements consummated outside its borders. This fact in itself should make one wary. Write to the Agricultural College or State Department of Agriculture in the other state and get some idea of the company before investing. If you finally decide to buy such seed from companies of questionable standing, write for directions, take a small sample for testing from the seed you receive, and forward the same to your own State Laboratory for investigation. Certain information makes us believe that such seeds will make an interesting study. Do not ask the company for such a sample because we have no way of making them send a portion out of the same lot from which they will later fill your order. Of course, legitimate companies do business by mail, guarantee their seeds, and stand behind them without reservation or quibbling, but not all companies do business conscientiously. For example, 37 samples of so-called "Alsike and Timothy

Mixtures" bought by persons in an eastern state* from a company in Iowa averaged as follows:

	Percentage of pure seed present	Germination
Timothy	72.2	82
Alsike clover	10.5	33 (weak)

Sixteen similar samples, bought by persons in the same state from a company in Chicago averaged as follows:

	Percentage of pure seed present	Germination
Timothy	82.3	84
Alsike clover	7.6	42

* Bul. 504, Agr. Expt. Sta., Geneva, N. Y.

Alsike and Timothy mixtures usually look attractive because of the high price of pure alsike on the market. Do not be misled by assuming that any mixture of this kind is necessarily half alsike, or one-third, or any other proportion. Look for the guarantee. Notice the small proportion of alsike in the mail-order mixtures previously mentioned and its poor quality. There were also many most undesirable weed seeds present in these mixtures. None of these samples carried tags giving any information as to purity or germination. These seeds were cheap in many ways of which, on thorough investigation, the price was the least conspicuous.

SEED EXAMINATION, 1924

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4933	Alfalfa (*Grimm*) ..... Holbrook Grocery Company, Keene	S	99	A	92
4965	Alfalfa (*Canadian Variegated*)..... McQuesten & Lewis, Manchester	S	98.18	S	93
4895	Alfalfa (*Grimm*, 027143) ..... Merrimack Co. Farmers' Exchange, Concord	S	99.34	S	96
4769	Alfalfa (*Pan American*)..... S. A. Schurman & Son, Portsmouth	S	99	S	90
4670	Alfalfa (*Grimm*) ..... J. B. Varick Co., Manchester	S	99	S	85
4940	Alsike (*Ace*) ..... Abbott Grocery Company, Keene	S	97.5	S	93
4827	Alsike ..... Ayers & Jenkins, Rochester	S	95.1	S	93
4710	Alsike (*Pan American*)..... Bell Hardware Company, Derry	S	97.5	A	90
4848	Alsike (*Extra Fancy White Mountain*) ..... A. F. Burtt & Company, Plymouth	S	98	A	92
4954	Alsike ..... W. B. Fogg, Hancock	S	95	63	90
4822	Alsike ..... E. C. Foss Company, Rochester	S	97.5	A	90
4908	Alsike (3980) ..... Frank W. Hamlin, Charlestown	A	94.52	S	91.25
4738	Alsike ..... Hilliard and Kimball, Exeter	S	97	A	85
4927	Alsike (*XXX*) ..... Holbrook Grocery Company, Keene	S	93	S	90
4874	Alsike ..... Hopkins Brothers & Belcher, Greenfield	S	93.28	S	94
4813	Alsike (*Eureka*) ..... Jenness Hardware Company, Dover	S	98	38	90
4912	Alsike (*Liberty*) ..... R. R. Kendall, Charlestown	S	98.68	S	96.75
4681	Alsike ..... Manchester Hardware Company, Manchester	S	95.55	S	85
4966	Alsike ..... McQuesten & Lewis, Manchester	S	95	S	90
4987	Alsike (*Ace*) ..... Merrimack Co. Farmers' Exchange, Concord	S	95.2	77.5	94
4950	Alsike (*Pan American*) ..... J. J. Morcau & Son, Manchester	S	98	S	90
4886	Alsike (*Pan American*) ..... Nashua Beef Company, Nashua	S	97.50	S	90
4779	Alsike (*Eureka*)..... F. W. Neal, Dover	S	98.50	A	90
4871	Alsike ..... W. F. Peel, Nashua	S	98	S	98
4902	Alsike (*Pan American*) ..... Rand, Ball & King Company, Claremont	S	97.5	S	90
4819	Alsike ..... Read, Esty Company, Farmington	S	98.5	S	96

A—Above. S—Satisfactory.

SEED EXAMINATION, 1924—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4861	Alsike Shepard Grocery Company, Franklin	S	94	S	85
4761	Alsike Somersworth Grain Company, Somersworth	S	95	S	85
4750	Alsike (21551) Strafford Co. Grain Mill, Rochester	S	93.6	S	90
4983	Alsike (*Ace*) Thompson & Hoague Company, Concord	S	96.5	S	93
4698	Alsike (*Acc*) John B. Varick Company, Manchester	S	96	S	94
4799	Alsike (*Liberty*) E. T. Willson, Farmington	S	92.01	S	96
4726	Alsike (*Prime*) W. A. Young, Exeter	S	89	65.5	88
4727	Alsike (*Pan American*) W. A. Young, Exeter	S	97.5	A	90
4760	Barley (*Oderbrucker*) Ayers & Jenkins, Rochester	S	97.14	S	98
4838	Barley Belknap Co. Farmers' Exchange, Laconia	S	98	A	90
4756	Barley (*6-row*) R. L. Costello, Portsmouth	S	97.5	S	98
4776	Barley (*Beardless*) R. L. Costello, Portsmouth	S	93	A	93
4924	Barley (*Fancy Oderbrucker, 4-row*) Geo. H. Eames & Son, Keene	S	97	71	92
4696	Barley (*Montana*) John H. Griffin, Newmarket	S	97	A	96
4805	Barley (*2-row*) Jenness Hardware Company, Dover	S	98	63	90
4978	Barley (*Montana*) J. J. Moreau & Son, Manchester	S	98	A	90
4853	Barley (*6-row*, 7138) J. H. Morrill, Laconia	S	99.17	A	90
4744	Barley F. W. Neal, Dover	S	98	A	90
4861	Barley (*2-row*) S. A. Schurman and Son, Portsmouth	S	98	A	90
4800	Barley (*Northwestern*) S. A. Schurman and Son, Portsmouth	A	92	S	90
4788	Barley (*2-row*) J. H. Seavey, Dover	S	99.16	A	95
4745	Barley (*Hygrade, 6-row*) Somersworth Grain Company, Somersworth	S	99	S	97
4863	Barley (*6-row*) C. P. Stevens, Franklin	S	97	A	92
4748	Barley (*Montano*) Strafford Co. Grain Mill, Rochester	S	99	S	97
4695	Barley (*6-row*) John B. Varick Company, Manchester	S	97	S	98

A—Above. S—Satisfactory.

SEED EXAMINATION, 1924—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4919	Barley (*6-row, State*) ..... Walbridge & Taylor, Peterboro	S	98	S	90
4817	Barley (*Chevalier*) ..... E. T. Willson, Farmington	S	98	A	90
4731	Barley (*Montana*) ..... W. A. Young, Exeter	S	97	S	96
4946	Beets (*Mangel Wurzel, Mammoth Prize Long Red*) ..... Thompson & Hoague Company, Concord	..	..	S	76
4951	Beets (*Mangel Wurzel, Lane's Imperial Sugar*) ..... Thompson & Hoague Company, Concord	..	..	S	74
4889	Beets (*Mangel Wurzel, Golden Tankard*) ..... Thompson & Hoague Company, Concord	S	99	A	67.5
4662	Beets (*Mangel Wurzel Narbitan Giant*) ..... John B. Varick Company, Manchester	..	..	A	76
4663	Beets (*Mangel Wurzel, White French Sugar*) ..... John B. Varick Company, Manchester	..	..	S	72
4690	Beets (*Mangel Wurzel, Golden Tankard*) ..... John B. Varick Company, Manchester	..	..	S	65
4802	Buckwheat, (*Japanese*) ..... S. A. Schurman and Son, Portsmouth	S	98	A	90
4860	Buckwheat, (*Japanese*) ..... Shepard Grocery Company, Franklin	S	98	80	95
4986	Buckwheat, (*Japanese*) ..... Thompson & Hoague Company, Concord	S	97.77	A	92
4668	Buckwheat, (*Japanese*) ..... John B. Varick Co., Manchester	S	98	S	95
4807	Canada Field Peas ..... Jenness Hardware Company, Dover	..	..	S	92
4904	Canada Field Peas ..... Rand, Ball, and King Company, Claremont	A	98	A	95
4768	Canada Field Peas (*Fancy*) ..... S. A. Schurman & Son, Portsmouth	A	98	A	90
4892	Canada Field Peas (08553) ..... Thompson & Hoague Company, Concord	S	99.5	A	96
4667	Canada Field Peas ..... John B. Varick Company, Manchester	A	96	S	95
4923	Canada Field Peas ..... Walbridge & Taylor, Peterboro	S	98	S	90
4713	Corn (*Improved Leaning*) ..... Bell Hardware Company, Derry	A	98	S	90

A—Above. S—Satisfactory.

SEED EXAMINATION, 1924—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4972	Corn (*Early Canada*) ..... Fisher and Company, Manchester	S	98	S	90
4882	Corn ..... Nashua Beef Company, Nashua	S	99.5	S	90
4856	Corn (*Early Mastodon*) ..... Ned C. Rogers, Tilton	A	95	A	84
4857	Corn ..... Ned C. Rogers, Tilton	A	95	A	86
4692	Corn (*Sanford*) ..... John B. Varick Company, Manchester	A	99	A	89
4672	Crimson Clover ..... John B. Varick Company, Manchester	66.5	98	49	90
4890	Kentucky Blue Grass (3274) ..... Thompson & Hoague Company, Concord	A	85.4	S	81
4936	Millett (*Hungarian*) ..... Abbott Grocery Company, Keene	S	97.84	81.5	93
4942	Millet (*Japanese Prime*) ..... Abbott Grocery Company, Keene	S	94.2	A	94
4757	Millet (*Japanese, Pure Quill Fancy*) Ayers & Jenkins, Rochester	S	98.3	S	92
4792	Millet (*Hungarian*) ..... Ayers & Jenkins, Rochester	..	..	92.5	
4887	Millet (*Hungarian, XX*)..... Baker Brothers, Hudson	S	97	S	85
4854	Millet (*Japanese*) ..... Balknap Co Farmers' Exchange, Laconia	S	98	S	88
4714	Millet (*Japanese, Fancy,*) ..... Bell Hardware Company, Derry	S	98	79.5	90
4715	Millet (*Hungarian, Fancy*) ..... Bell Hardware Company, Derry	S	98	S	85
4925	Millet (*Japanese, 447*) ..... Geo. H. Eames & Son, Keene	S	97	S	94
4958	Millet (*Japanese*) ..... Fisher & Company, Manchester	S	98	S	90
4981	Millet (*Hungarian, 9512*) ..... Fisher & Company, Manchester	S	99.21	79	94.75
4684	Millet (*Hungarian*) ..... John H. Griffin, Newmarket	82	98	73	90
4907	Millet (*Japanese*) ..... Frank W. Hamlin, Charlestown	S	97.07	82	95
4878	Millet (*Hungarian, Fancy*) ..... Hill Hardware & Paint Company, Nashua	S	98	S	93
4733	Millet (*Japanese*) ..... Hilliard & Kimball, Exeter	S	98	S	92
4734	Millet (*Hungarian*) ..... Hilliard & Kimball, Exeter	S	99	S	85
4806	Millet (*Hungarian, Fancy*) ..... Jenness Hardware Company, Dover	S	98	70	90
4794	Millet (*Japanese*) ..... J. Jones & Son, Alton	S	95.93	S	100
4797	Millet (*Hungarian*) ..... J. Jones & Son, Alton	S	99.21	S	94
4957	Millet (*Japanese, Fancy*) ..... Kendall & Wilkins, Milford	S	98	S	90

A—Above. S—Satisfactory.

SEED EXAMINATION, 1924—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4911	Millet (*Japanese*, 3859) ..... R. R. Kendall, Charlestown	S	97.44	S	98
4682	Millet (*Japanese, Fancy*) ..... Manchester Hardware Company, Manchester	S	98.75	S	90
4961	Millet (*Japanese*) ..... McQuesten & Lewis, Manchester	S	95.28	A	90
4964	Millet (*Hungarian*) ..... McQuesten & Lewis, Manchester	37.82	98.1	S	93
4849	Millet (*Japanese*) ..... Meredith Grain Company, Meredith	S	98	S	90
4969	Millet (*Japanese*, 4412) ..... Merrimack Co. Farmers' Exchange Concord	S	95.28	S	90
4974	Millet (*Hungarian*) ..... Merrimack Co. Farmers' Exchange, Concord	S	98.1	S	93
4948	Millet (*Japanese, Fancy*) ..... J. J. Moreau & Son, Manchester	95.5	97.09	S	88
4975	Millet (*Hungarian, Fancy*) ..... J. J. Moreau & Son, Manchester	S	98	68	90
4879	Millet (*Hungarian*) ..... W. F. Peel, Nashua	S	94	S	86
4867	Millet (*Hungarian*) ..... W. R. Peterson Company, Nashua	S	98	60	80
4843	Millet (*Hungarian*, 4723) ..... Rand & Dearborn, Laconia	S	98	S	85
4899	Millet (*Hungarian, XX Prime*) .... Rand, Ball & King Company, Claremont	A	98	A	90
4828	Millet (*Hungarian*) ..... Read, Esty Company, Farmington	S	98	66	80
4795	Millet (*Japanese*) ..... Read, Esty Company, Farmington	S	96	S	94
4901	Millet (*Japanese*) ..... F. P. Rowell, Newport	S	98	S	97
4845	Millet (*Hungarian, XX*) ..... H. C. Sanborn, Laconia	A	97	S	85
4775	Millet (*Japanese, Fancy*) ..... S. A. Schurman & Son, Portsmouth	S	98	S	90
4803	Millet (*Hungarian Fancy*) ..... S. A. Schurman & Son, Portsmouth	S	98	71	88
4859	Millet (*Hungarian*, 475) ..... Shepard Grocery Company, Franklin	S	97.55	S	86
4746	Millet (*Hungarian*) ..... Somersworth Grain Company, Somersworth	S	99.3	S	85
4893	Millet (*Japanese*) ..... Thompson & Hoague Company, Concord	A	97.7	S	97
4894	Millet (*Hungarian*) ..... Thompson & Hoague Company, Concord	S	99.14	57	85
4732	Millet (*Hungarian*) ..... W. A. Young, Exeter	S	99.14	S	86

A—Above. S—Satisfactory.

SEED EXAMINATION, 1924—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4782	Oats (*Pottersons*) ..... Ayers & Jenkins, Rochester	A	98.07	S	93
4719	Oats (*Swedish Select*) ..... Bell Hardware Company, Derry	S	98	A	95
4903	Oats (*Certified Worthy*) ..... Peter Bill, Enfield	S	99	A	90
4835	Oats ..... W. B. Brown, Ashland	S	99	S	95
4820	Oats (*Pennant*) ..... Freeman Corson, Rochester	S	99	..	..
4747	Oats (*Swedish*) ..... E. C. Foss Company, Rochester	S	98	S	96
4687	Oats (*Abundance*) ..... John H. Griffin, Newmarket	S	98	S	93
4956	Oats (*Abundance*) ..... Kendall & Wilkins, Milford	S	98	S	93
4976	Oats (*Fancy Alberta*) ..... McQuesten & Lewis, Manchester	..	..	S	95
4897	Oats (*Michigan Natural*) ..... Merrimack Co. Farmers' Exchange Concord	..	..	A	95
4898	Oats ..... Merrimack Co. Farmers' Exchange Concord	..	..	S	95
4977	Oats (*Swedish Select*)..... J. J. Moreau & Sons, Manchester	S	98	A	90
4770	Oats (*Welcome*) ..... F. W. Neal, Dover	S	98	A	93
4842	Oats (*White Mountain*) ..... O. A. Plummer, Tilton	S	99	S	95
4844	Oats (*Swedish*) ..... Rand & Dearborn, Laconia	S	98	S	95
4836	Oats ..... J. E. Reed & Son, Ashland	S	99.89	S	98
4855	Oats (7325) ..... H. C. Sanborn, Laconia	S	99	S	95
4825	Oats ..... S. A. Schurman & Son, Portsmouth	S	98	A	90
4831	Oats ..... S. A. Schurman & Son, Portsmouth	S	98	A	93
4749	Oats (*Hygrade Fancy*) ..... Strafford Co. Grain Mill, Rochester	S	99	S	97
4796	Oats (*White Mountain*) ..... E. T. Willson, Farmington	S	99	A	95
4771	Oats ..... E. J. York, Dover	S	97.9	A	86
4730	Oats (*Swedish*) ..... W. A. Young, Exeter	S	99	A	96
4676	Orchard Grass ..... John B. Varick Company, Manchester	84.16	97	S	80
4915	Rape, (*Dwarf Essex*) ..... J. H. Kinniry, Claremont	S	98	65	90
4883	Rape, (*Dwarf Essex*) ..... Nashua Beef Company, Nashua	S	98	62.5	88

A—Above. S—Satisfactory.

SEED EXAMINATION, 1924—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4906	Red Clover, (*Choice*) ..... Abbot Grocery Company, Keene	A	98	S	90
4820	Red Clover ..... Ayers & Jenkins, Rochester	S	99.35	S	98
4712	Red Clover (*Pan American*) ..... Bell Hardware Company, Derry	S	98.5	A	90
4839	Red Clover ..... W. B. Brown, Ashland	A	99.5	S	94
4832	Red Clover ..... Carr's Cash Grocery, Dover	75.4	99	87	95
4955	Red Clover ..... W. D. Fogg, Hancock	S	98	S	90
4821	Red Clover (*Pan American*)..... E. C. Foss Company, Rochester	S	98.5	79.5	90
4917	Red Clover (*Mammoth*) ..... C. M. Hildreth & Son, Lebanon	S	99.5	A	90
4735	Red Clover ..... Hilliard & Kimball, Exeter	A	98	A	85
4928	Red Clover (*XXX*)..... Holbrook Grocery Company, Keene	S	97	S	91
4929	Red Clover (*Ace*) ..... Holbrook Grocery Company, Keene	A	97	S	91
4930	Red Clover ..... Holbrook Grocery Company, Keene	S	95	S	90
4873	Red Clover (9914) ..... Hopkins Brothers & Belcher, Greenfield	S	96.92	S	93
4814	Red Clover (*Eureka*) ..... Jenness Hardware Company, Dover	S	99.5	A	90
4808	Red Clover (*Pan American*) ..... J. Jones & Son, Alton	S	98	S	90
4910	Red Clover (*Liberty*)..... R. R. Kendall, Charlestown	A	94.36	A	89
4679	Red Clover (*Medium*) ..... Manchester Hardware Company, Manchester	S	98.04	S	94
4962	Red Clover (*Medium*, 241196) ..... McQuesten & Lewis, Manchester	S	98.34	A	88
4850	Red Clover (*Pan American*) ..... Meredith Grain Company, Meredith	S	98.5	A	90
4959	Red Clover (*Mammoth Acc*) ..... Merrimack Co. Farmers' Exchange, Concord	S	98	S	97
4884	Red Clover (*Pan American*) ..... Nashua Beef Company, Nashua	S	98.5	A	90
4723	Red Clover (*Pan American*) .... W. F. Neal, Derry	A	98	S	90
4777	Red Clover (*Eureka*) ..... F. W. Neal, Dover	S	99.5	S	94
4841	Red Clover (*Pan American*) .... O. A. Plummer, Tilton	A	98	A	90
4818	Red Clover (*Medium*)..... Read, Esty Company, Farmington	S	98.36	S	94
4833	Red Clover ..... C. N. Roberts, Meredith	S	99.5	A	90
4789	Red Clover (*Medium*) ..... J. H. Seavey, Dover	S	98.05	S	93

A—Above. S—Satisfactory.

SEED EXAMINATION, 1924—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4858	Red Clover (*Our E Brand*) ..... Shepard Grocery Company, Franklin	S	98.36	S	96
4765	Red Clover ..... Strafford Co. Grain Mill, Rochester	S	97.48	S	94
4984	Red Clover (*Medium*, 241110) .... Thompson & Hoague Company, Concord	S	98.55	S	90
4673	Red Clover (*Mammoth*) ..... John B. Varick Company, Manchester	S	98	S	97
4697	Red Clover (*Medium*) ..... John B Varick Company, Manchester	A	98	S	94
4815	Red Clover (*Liberty*) ..... E. T. Willson, Farmington	S	95.24	A	93
4758	Red Top (*Potterson's*) ..... Ayers & Jenkins, Rochester	S	90.1	S	88
4717	Red Top (*Pan American*) ..... Bell Hardware Company, Derry	S	90	S	90
4772	Red Top (*Fancy*) ..... R. J. Costello, Portsmouth	S	93.7	S	92
4737	Red Top (*No. 9*) ..... Hilliard & Kimball, Exeter	S	90	A	90
4680	Red Top (*Fancy Pine Tree*) ..... Manchester Hardware Company, Manchester	S	92	S	88
4778	Red Top (*Eureka*) ..... F. W. Neal, Dover	S	94	S	90
4764	Red Top ..... Strafford County Grain Mill, Rochester	S	90.4	80	90
4724	Red Top (*Choice*) ..... W. A. Young, Exeter	S	91	A	90
4686	Rye (*Winter*) ..... John H. Griffin, Newmarket	S	98	S	95
4678	Rye (*Spring*) ..... Manchester Hardware Company, Manchester	A	90	S	85
4979	Rye (*Spring*) ..... J. J. Moreau & Son, Manchester	S	98	S	94
4664	Rye (*Spring*) ..... John B. Varick Company, Manchester	91.3	96	S	92
4669	Sudan Grass ..... John B. Varick Company, Manchester	S	96	S	95
4916	Sudan Grass ..... Rand, Ball & King Company, Claremont	S	97	71	85
4932	Sunflowers ..... Holbrook Grocery Company, Keene	..	..	A	90
4941	Timothy (662592) ..... Abbott Grocery Company, Keene	S	98.25	S	93
4759	Timothy (*Potterson's*) ..... Ayers & Jenkins, Rochester	S	99.5	A	90
4888	Timothy (XX, 1912) ..... Baker Brothers, Hudson	A	98	A	90

A—Above. S—Satisfactory.

SEED EXAMINATION, 1924—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4722	Timothy (*Pan American*) ..... Bell Hardware Company, Derry	S	99.5	A	90
4754	Timothy (*Pine Tree*) ..... R. L. Costello, Portsmouth	S	99.6	S	94
4980	Timothy (*Lark*, 9790) ..... Fisher & Company, Manchester	S	98.8	86	97.75
4952	Timothy ..... W. D. Fogg, Hancock	S	97	82	96
4824	Timothy ..... E. C. Foss Company, Rochester	S	99.5	80	90
4685	Timothy (*Pan American*) ..... John H. Griffin, Newmarket	S	99.5	A	90
4944	Timothy (3963) ..... Franklin W. Hamlin, Charlestown	S	99.6	S	99.25
4739	Timothy (*Bay State*) ..... Hilliard & Kimball, Exeter	S	99	A	94
4935	Timothy (*XXX*) ..... Holbrook Grocery Company, Keene	S	99	A	93
4945	Timothy (*Monadnock*) ..... Holbrook Grocery Company, Keene	S	99.5	A	94
4872	Timothy ..... Hopkins Bros. & Belcher, Greenfield	S	98.83	S	97.75
4751	Timothy (*Pan American*) ..... Jenness Hardware Company, Dover	S	99.5	S	90
4798	Timothy (*Liberty*) ..... J. Jones & Son, Alton	S	99.6	S	98.5
4909	Timothy (*Liberty*) ..... R. R. Kendall, Charlestown	S	99.7	S	99.25
4920	Timothy (*Domestic*) ..... Lewis Brothers, Lebanon	S	99.5	A	94
4960	Timothy (*Pine Tree*) ..... McQuesten & Lewis, Manchester	S	99.6	S	94
4683	Timothy (*Pine Tree*) ..... Manchester Hardware Company, Manchester	S	99.6	A	94
4852	Timothy (*Pan American*) ..... Meredith Grain Company, Meredith	S	99.5	A	90
4971	Timothy (2448) ..... Merrimack County Farmers' Exchange, Concord	S	99.5	A	90
4973	Timothy (*Pine Tree*) ..... Merrimack County Farmers' Exchange, Concord	S	99.6	82	94
4885	Timothy (*Pan American*) ..... Nashua Beef Company, Nashua	A	99.5	A	90
4740	Timothy (*Imperator*) ..... W. F. Neal, Derry	S	99	A	90
4790	Timothy (*Pan American*) ..... F. W. Neal, Dover	S	99.5	A	90
4791	Timothy (*King*) ..... F. W. Neal, Dover	S	99.6	94.5	..
4880	Timothy (*Bay State*) ..... W. F. Peel, Nashua	S	99.5	S	95
4847	Timothy (*Gold Medal*) ..... C. N. Roberts, Meredith	S	99.75	A	94
4900	Timothy ..... F. P. Rowell, Newport	S	97	76	95

A—Above. S—Satisfactory.

SEED EXAMINATION, 1924—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4785	Timothy (*Pine Tree*) ..... J. H. Seavey, Dover	S	99.6	S	92
4862	Timothy (*Gem*) ..... Shepard Grocery Co., Franklin	97.7	99	S	88
4762	Timothy (*Pine Tree*) ..... Somersworth Grain Co., Somersworth	S	99.6	S	94
4766	Timothy (*White Mtn, Extra Fnacy*) Strafford Co. Grain Mill, Rochester	S	99.65	A	95
4985	Timothy (*Pan American*) ..... Thompson & Hoague Co., Concord	S	99.5	50	90
4816	Timothy (*Liberty*) ..... E. T. Willson, Farmington	S	99.6	S	97
4728	Timothy (*Pan American*) ..... W. A. Young, Exeter	S	99.5	A	90
4947	Turnip (*Rutabaga*) ..... Thompson & Hoague, Co. Concord	..	..	S	90
4691	Turnip (*Rutabaga, Yellow Am. Purple Top*) ..... John B. Varick Company, Manchester	..	..	S	90
4896	Vetch (*Winter*, 3425) ..... Merrimack County Farmers' Exchange, Concord	A	97.25	S	85
4968	Vetch (9927) ..... Merrimack County Farmers' Exchange, Concord	S	99.64	S	92
4693	Vetch (*Spring*) ..... John B. Varick Company, Manchester	S	98	A	84
4666	Wheat (*Spring*) ..... John B. Varick Company, Manchester	A	96	S	95
4780	Wheat (*Marquis Spring*) ..... E. T. Willson, Farmington	A	98	A	90
4752	White Clover ..... R. L. Costello, Portsmouth	S	94	S	95
4877	White Clover ..... Hill Hdw. & Paint Co., Nashua	S	94	S	88
4736	White Clover ..... Hilliard & Kimball, Exeter	S	98	A	96
4926	White Clover ..... Holbrook Grocery Company, Keene	S	97	S	85
4812	White Clover (*Choice*) ..... Jenness Hardware Company, Dover	S	93	A	80
4949	White Clover ..... J. J. Moreau & Son, Manchester	S	96	S	90
4865	White Clover (*Choice*) ..... W. R. Peterson Company, Nashua	S	93	S	90
4665	White Clover	A	93	S	94

A—Above. S—Satisfactory.

NOV
1952